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MEMORANDUM REPORT M65-13-1

THE QUALITATIVE DEVELOPMENT REQUIREMENTS INFORMATION (QDRI) REGISTERED ORGANIZATION DATA BANK (RODATA)

by

JAMES G. PEIRCE

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CHARLES BEUGLESS

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THE QUALITATIVE DEVELOPMENT REQUIREMENTS INFORMATION (QDRI) REGISTERED ORGANIZATION DATA BANK (RODATA)

by

JAMES G. PEIRCE

and

CHARLES BEUGLESS

Research & Development Directorate

FRANKFORD ARSENAL

Philadelphia, Pa. 19137

March 1965

ABSTRACT

This report covers the need for and description of a data bank for the vast amount of information being collected in the QDRI program. An automated data system to acquire, store and process commonly needed information in this program can be put into operation in the very near future.

This data bank will be an information science oriented operation, using primarily existing operational equipment and the existing AUTODIN/AUTOVON network for rapid transmission of data from each RDTE and procurement qualification activity/installation, and vice-versa.

INTRODUCTION

The QDRI Program is the Army's research and development information-to-industry program, which has been assigned to the U. S. Army Materiel Command for management. It is the equivalent of the Air Force Systems Command's Technical Objective Document (TOD) Release Program. There are also similar programs in the Navy. The initials QDRI stand for qualitative development requirements information which is defined as information (written or verbal) regarding current and future Army requirements for development of materiel exclusive of advanced procurement information. The program is fully defined by AMCR 70-19 (Ref a), and in the QDRI Managers Guide (Ref. b). The program includes activities previously covered by:

a. The Ordnance Corps' QDRI Program

b. The Chemical Corps' Army Study Requirements

c. The U. S. Army R&D Problems Guide, and

d. The NIC's "Inventions Wanted by the Armed Forces".

It will have a close organizational and operational relationship with:

a. The DOD-wide Independent Research Program

b. The DOD-wide Advanced Planning Briefings,

c. The Army's Unfunded Study Program, and

d. The U. S. Army R&D Contractor's Guide.

In addition it has actual or anticipated interfaces with:

a. The Army Scientific and Technical Information (STINFO) program,

b. The USAMC Long Range Technical Planning (LRTP) program,

c. The Command Automated Procurement System (CAPS),

d. The Army R&D Information System (ARDIS), and

e. The Defense Documentation Center's (DDC) field-of-interest regist r (FOIR) operations.

Registered organizations are the business entities, individual scientists, industrial firms, academic and non-profit institutions engaged in research and development which have voluntarily signed a policy agreement for the receipt of QDRI and have been qualified for the program by both a procurement and an RDTE activity. This report will also use just the term "Industry" for these organizations.

It has become apparent to most of the managers of the QDRI program that there are enough items of data being collected about qualified organizations and from the information interfaces between the Army and Industry to require the development of an automated data system to acquire, store and process commonly needed information in a uniform manner, and in addition certain specialized information for individual Army installations, which data might be useful to other installations under varying circumstances. Several Army R&D activities, including Frankford Arsenal, have automated segments of the QDRI operation, and most of the data has been mechanized in ways that can easily and quickly be made compatible. The Ordnance QDRI qualifications system based on the old ASTIA Distribution Guide, the DD Form 558-2 system, the AFSC Form 220, and the TCREC Form 390-BAO, are generally compatible and are all based on the common classification language still used by the Defense Documentation Center (DDC) for its field-of-interest registers (FOIR). The impact of "Project 60" on the procurement activities of the Army is a large factor indicating the need for a central information source. Action must be started during the summer of 1965 (early FY 1966) to transfer qualification files from all procurement districts, except Los Angeles and San Francisco, to the commodity commands. If the appropriate mechanism could be established to accept the summary management data on these files, the transfer job could be operated more accurately, and, hopefully, more swiftly. In addition QDRI's are now being identified with a number designed for ADPS utilization in the conversion of the QDRI's to funded projects and tasks. The "sixty-four dollar question" is now, "Where is information for rapid design of an ADP system, and who has equipment to handle it?"

The author, who has been QDRI manager of Frankford Arsenal for over six years, both under OCTI 200-2-58 and AMCR 70-19, has made probably the most detailed study of the QDRI program of anyone in the entire U. S. Army Materiel Command. He has been on detail and TDY assignment to the R&D Directorate, AMC, for varying periods over the past two years, and is personally responsible for the writing of AMCR 70-19 and the QDRI Managers Guide. He has visited the QDRI operations of all procurement districts and commodity commands during the 1963-1964 period of USAMC shakedown operations. There is enough evidence to indicate that a QDRI oriented data bank can be designed and be put into partial operation by the end of FY 1965, using existing technology and equipment available to the AMC installations involved in the QDRI program. (See figure 1)

In the development of the QDRI Managers Guide, Volume I of the new AMC series of QDRI guides, a job assigned to Frankford Arsenal early in FY 1965, the concept of a data bank for QDRI continuously crystallized into the description now presented in this report. This data bank will be an information science oriented operation, using primarily existing operational IBM equipment and the existing AUTODIN/AUTOVON network for rapid transmission of data from each RDTE and procurement qualification activity/installation, and vice-versa. Initial computations have indicated that standard 80-column punched card operations and not overly sophisticated programs written for the IBM 1410/1460 equipment, with some use of magnetic tapes, now available with sufficient capacity at Frankford Arsenal, will serve initial needs during the design and testing phase, scheduled for the last quarter of FY 1964. Files created during FY 1966 can be maintained on magnetic tape. However, by FY 1970 files will probably be on RAMAC-type magnetic discs, or an improved type of disc, so that fast rate random access to data will be an accomplished fact.

DATA SYSTEMS PROJECT

SYSTEMS DESCRIPTION

1. Project Category

Combined operation pertaining to both Research and Development, and Scientific and Technical Data Management

2. Project Number and Title

(To be assigned by DSO) AMC QDRI Registered Organization Data Bank (RODATA)

3. Action Office

Frankford Arsenal, Philadelphia, Pa. 19137

4. AIDS Code Number and Systems Title

To be determined

5. Date of Preparation

15 March 1965

6. Stage of Development

Phase I (Systems Planning)

It will be necessary by the end of FY 1965 to make a portion of the system operational. It is anticipated that certain operations may move ahead of required Phase II and Phase III documentation.

7. Matrix Reference

a. Matrix - Module - Cell - Sub-Cell

Operational Subsystem

01 (Basic) Research

006 (Basic) Research capabilities

01 Indexed roster of professional personnel by scientific discipline, by technical competency, and by location.

032 Information transfer (STINFO)

02 Indexing, recording, and retrieval of data

092 Technical state-of-the-art forecasts

02 Indexed project, task, and sub-task by LRP document coding

04 Indexed time-phased forecasts of technical achievements

08 Procurement and Production

065 Product Contract Evaluation (Bidders source data)

01 Collection and recording of data on sources of supply

b. Level of application

AMC wide. AMC Headquarters to higher authority.

8. Purpose

To establish an AMC QDRI Registered Organization Data Bank in order to simplify and expedite the operation of the Army's research and development information-to-industry program (QDRI) by providing a readily available source of data regarding qualifications, capabilities and fields-of-interests of registered organizations so that current and future Army requirements for development of materiel and techniques can be directed to those industrial, scientific, academic and educational institutions considered most qualified to satisfy such requirements. To provide meaningful data to Headquarters Army Materiel Command and higher authority regarding the extent to which the QDRI program is successful in the accomplishment of these objectives.

9. Scope

a. The Director, Research and Development Directorate, AMC, is responsible for implementation of the QDRI Program. AMC Major Subordinate Commands and installations and activities assigned a research, development test and evaluation mission are responsible for determining the qualifications of organisations desiring to participate, furnishing QDRI to organizations registered in the program and the evaluation of proposals submitted from industry as the result thereof.

b. Responsibility for operation of the AMC Registered Organization Data Bank is yet to be assigned.

10. Current Objectives (FY 65-66)

a. Data has been collected from AMC installations and agencies responsible for field operation of the QDRI Program using DD Form 558-2 for input. This data is required to determine allocation during FY 1966 of Army Procurement District QDRI files to commodity center procurement and qualification offices.

b. A meeting is to be held on the total QDRI program plan under joint AMC-Frankford Arsenal management at Washington, D. C. on 29 and 30 March 1965. This systems description is to be presented at that time to the district, laboratory, and commodity center QDRI managers, and a plan will be established for the initial transfer of qualifications data on registered organizations from the Army procurement districts to a central QDRI data bank. The objective is to have the data bank in operation for this use by 30 June 1965. (See figure 2)

c. During the first quarter of FY 1966 the data bank will make a comparison of qualified organizations file content against AMC installations fields-of-interest as recorded in the data bank. Reports are to be generated by district and commodity center listings showing primary and secondary interests in each registered civilian organization. The district QDRI managers will prepare transfer schedules based on these listings. Concurrences will be obtained from centers with either primary or secondary interests; disagreements will be resolved by the AMC central policy office, AMCRD-SS-P. Wherever possible data and reports are to be transmitted through the AUTODIN/AUTOVON network.

d. Depending on the total design of the system and the availability of resources, additional objectives may or may not be achieved in FY 1966:

(1) It is most probable that the RDT&E segment of CAPS can be

made operational within one quarter of the allocation of qualified registered organization files to commodity centers. District transfers are scheduled for completion by March 1966. CAPS data should be available therefore in June 1966.

(2) The key mechanism of the Army R&D Information System (ARDIS) is the DD Form 1498. There will be an AMC data bank system for ARDIS operational by the second quarter of FY 1966. QDRI projects, tasks, and problems are to be listed on a modified DD Form 1498 in QDRI Volumes II through VIII. Control data extracted from these forms is to be inserted in the data bank, hopefully, by 3rd quarter FY 1966.

(3) During FY 1966 the RODATA management will be kept informed of the STINFO network design efforts resulting from IDEEA and the CIDS efforts of Frankford Arsenal's research program. At the appropriate time an interface will be established between RODATA and IDEEA, so that QDRI registrants may ask and be asked questions through the network.

(4) The data file on key personnel in registered organizations should be available for TEL-TIPS utilization by the end of FY 1966.

11. Planning Fiscal Years Objectives (FY 67-69)

a. FY 67 (See figure 3)

(1) The program for answering all types of qualification questions will have been entered and tested.

(2) A final test will be run on the overall AMC R&D Bidders' List.

(3) The Army Research Office and the AMC Data Bank will integrate their respective TEL-TIPS files and publish a hard copy joint report.

(4) AMC will start to revise QDRI Managers Guide Annexes using the data bank outputs.

(5) Published QDRI's will be indexed by the data bank utilizing recorded keywords.

b. FY 68

(1) The data bank will be able to produce full annual and special reports on demand of AMC and field installations.

(2) AMC and field installations will be able to provide uniform R&D bidders lists and data on demand.

(3) Utilizing the data bank AMC will integrate all QDRI, Unfunded Study, Independent R&D, QMDO, QMR, and SDR Data - to be coordinated with ARO-DD Form 1498 operations.

c. FY 69

(1) All QDRI operations will be refined for maximum interchangeability and efficiency.

(2) AMC and the QDRI data bank management will collaborate on the design of software for photocomposition (at GPO, TAG, or Letterkenny) of QDRI Managers Guide and DD Form 1498 or similar sheets.

This will be done in order that photocomposition of QDRI publications, and electrical transmission of QDRI technical data can be accomplished in FY 1970.

12. Current Planned Workload (FY 65-66)

Man Months		Organization
FY 65	FY 66	
6.0	18.0	RAD Directorate, FA
4.0	8.0	Mgt Sci & Data Systems Office, FA
3.0	18.0	Data Processing Office, FA

13. General Description of the System

A data bank will be established to serve as the focal point of information on the AMC QDRI Program. Data regarding qualified registered organizations, their fields and spheres of interest and the capabilities and disciplines of their leading scientific and engineering personnel will be provided to the data bank by qualifying agencies (Army Procurement District Offices or succeeding activities).

Information regarding qualified organizations' fields-of-interest and spheres-of-interest will be quickly provided by the data bank to installation QDRI managers upon notification of development of new QDRI. The data bank can also create R&D bidders list for CAPS from the same data supplied for the QDRI program.

Army installations which create the QDRI will distribute the documents based on information provided from the data bank, qualify organizations, conduct briefings, perform liaison between civilian and army technical personnel and evaluate reports and unsolicited proposals. Data regarding all of these activities will be furnished to the AMC data bank, which will provide reports to higher authority on the operation of the QDRI program as well as feedback to originating installations.

14. Equipment Impact

Preliminary analysis has indicated that there is sufficient equipment in the total AMC complex, and particularly at Frankford Arsenal to perform the plans presented here for FY 1966. Additional equipment requirements for FY 1967 and following years is yet to be determined. The Frankford Arsenal ADP function utilizes an IBM 1410/1460 combination. This system has four-tape stations for each computer, and one random access disc unit with a capacity of 56,000,000 characters. There is a high speed printer on-line to the 1460 computer, and off line to the 1410. The 1410 has a capability of utilizing six tape stations.

15. Status of System Development - Not applicable

16. References

a. AMCR 70-19, Release of Qualitative Development Requirements Information (QDRI), 13 October 1964

b. AMC ltr AMCRD-SS-P, subject "QDRI Registered Organization Data Bank", dated 15 February 1965 to CG USAMUCOM.

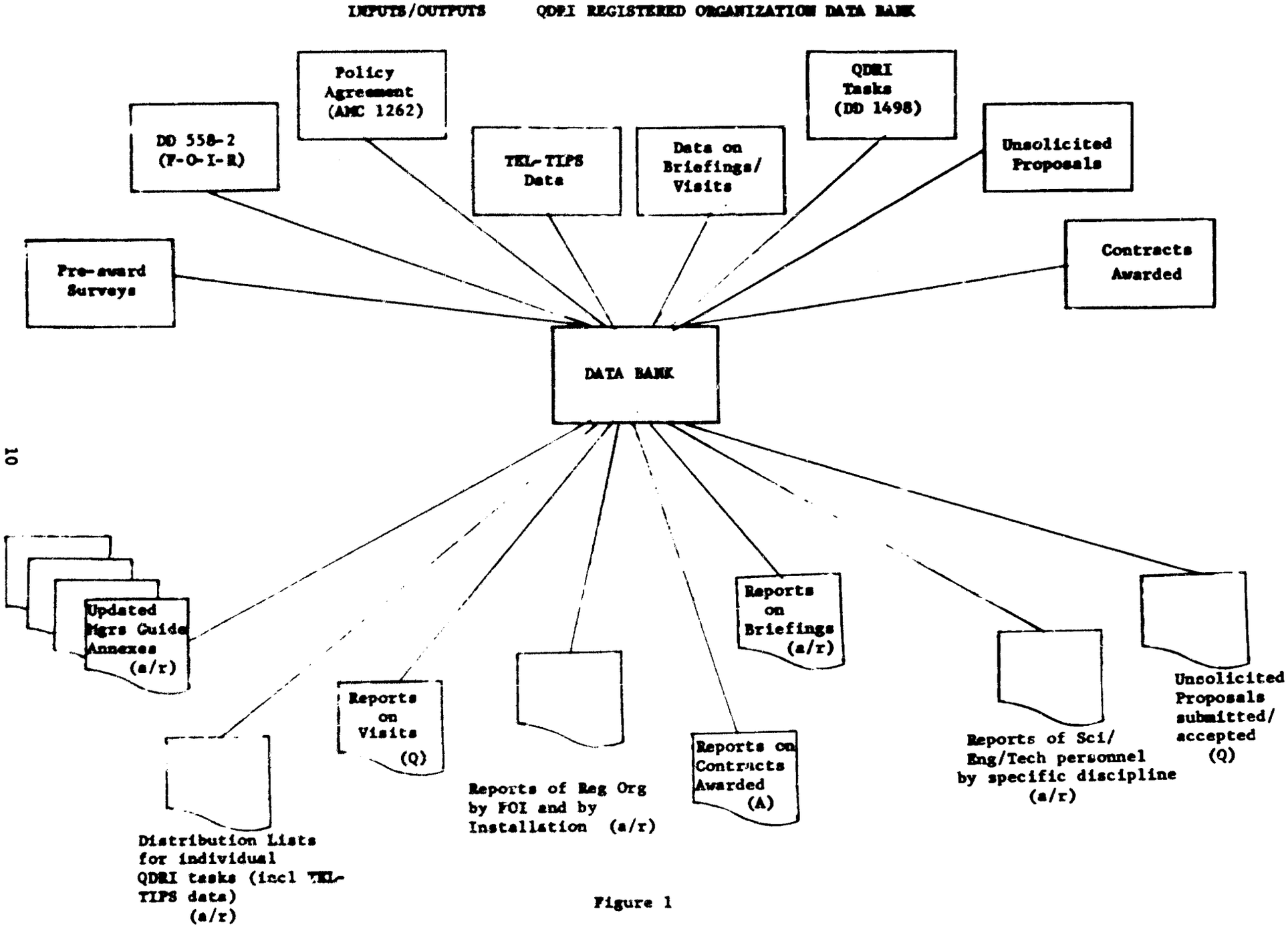
INPUTS/OUTPUTS
QDRI REGISTERED ORGANIZATION DATA BANK
Policy Agreement (AMC 1262)
DD 558-2 (F-O-I-R)
TKL-TIPS Data
Data on Briefings/ Visits
QDRI Tasks (DD 1498)
Unsolicited Proposals
Pre-award Surveys
Contracts Awarded
DATA BANK
Updated Mgrs Guide Annexes (a/r)
Reports on Visits (Q)
Reports of Reg Org by FOI and by Installation (a/r)
Reports on Contracts Awarded (A)
Reports on Briefings (a/r)
Reports of Sci/ Eng/Tech personnel by specific discipline (a/r)
Unsolicited Proposals submitted/ accepted (Q)
Distribution Lists for individual QDRI tasks (incl TKL-TIPS data) (a/r)

Figure 1

QDRI DATA AND INFORMATION NETWORK - JUNE 1965

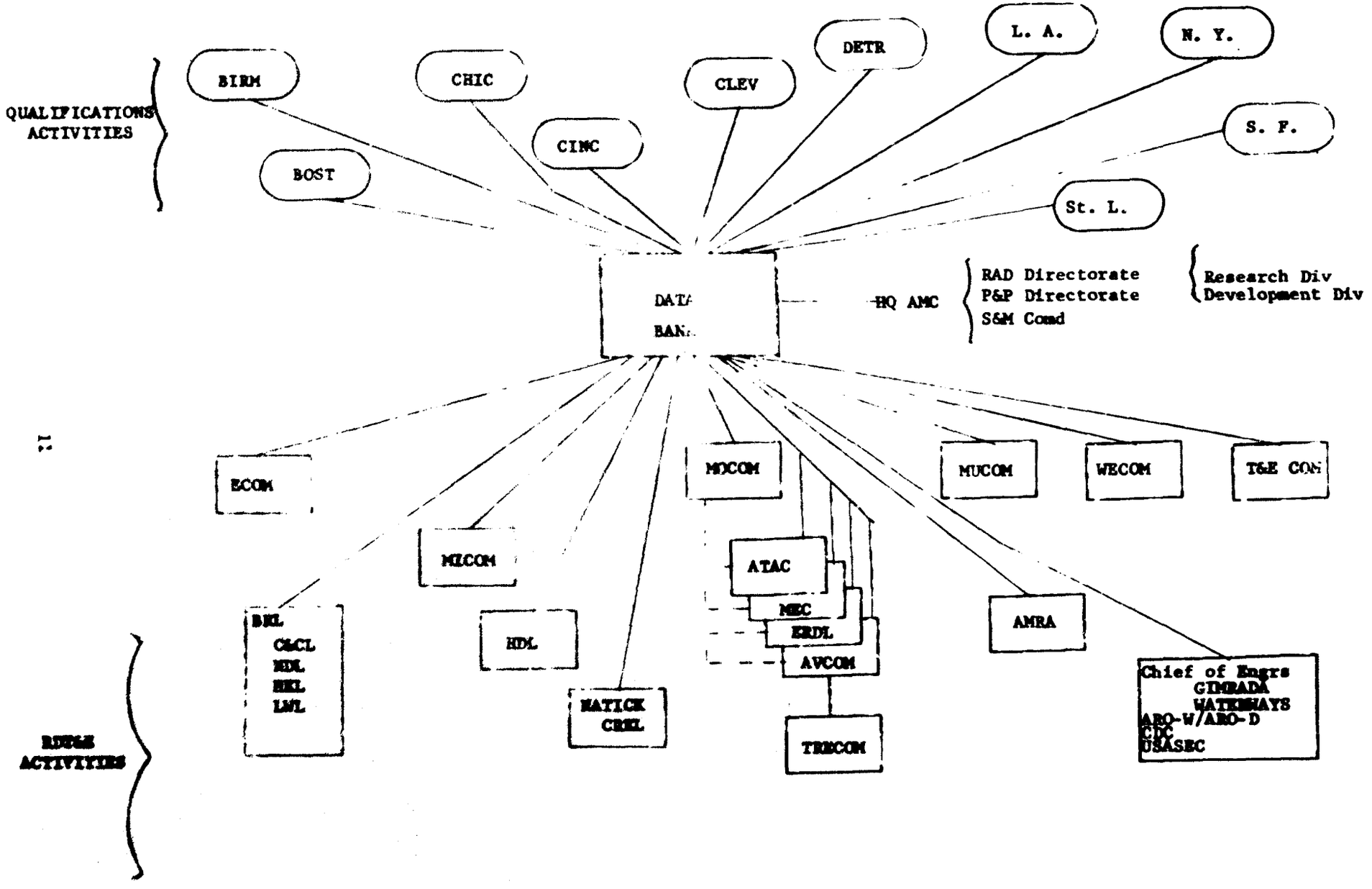

Figure 2

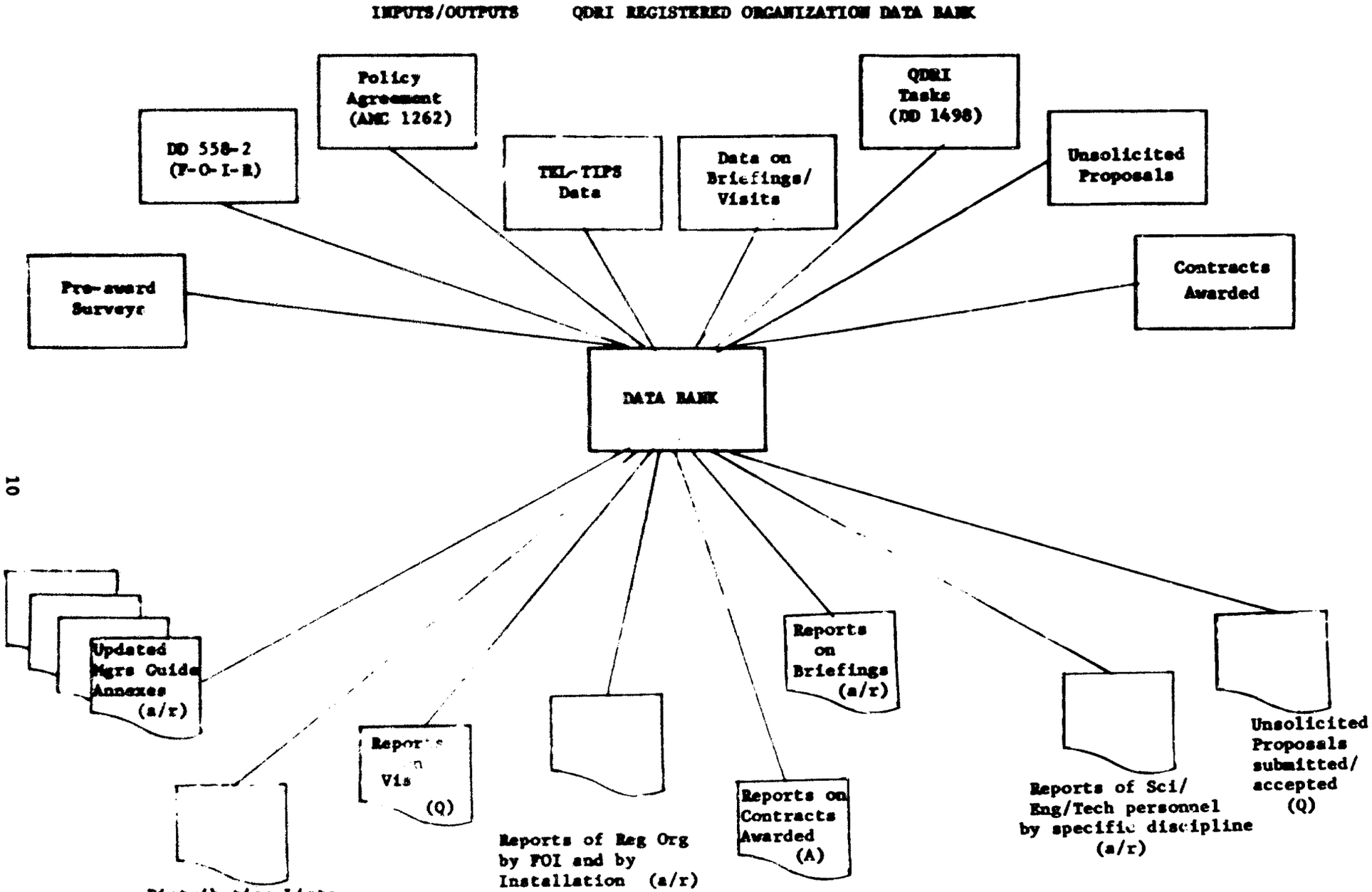
INPUTS/OUTPUTS QDRI REGISTERED ORGANIZATION DATA BANK
DD 558-2 (F-O-I-R)
Policy Agreement (AMC 1262)
TKL-TIPS Data
Data on Briefings/ Visits
QDRI Tasks (DD 1498)
Unsolicited Proposals
Pre-award Survey
Contracts Awarded
DATA BANK
Updated Mgrs Guide Annexes (a/r)
Distribution Lists for individual QDRI tasks (incl TKL-TIPS data)
Reports on Vis (Q)
Reports of Reg Org by FOI and by Installation (a/r)
Reports on Contracts Awarded (A)
Reports on Briefings (a/r)
Reports of Sci/ Eng/Tech personnel by specific discipline (a/r)
Unsolicited Proposals submitted/ accepted (Q)

Figure 1

QDRI DATA AND INFORMATION NETWORK - JUNE 1965

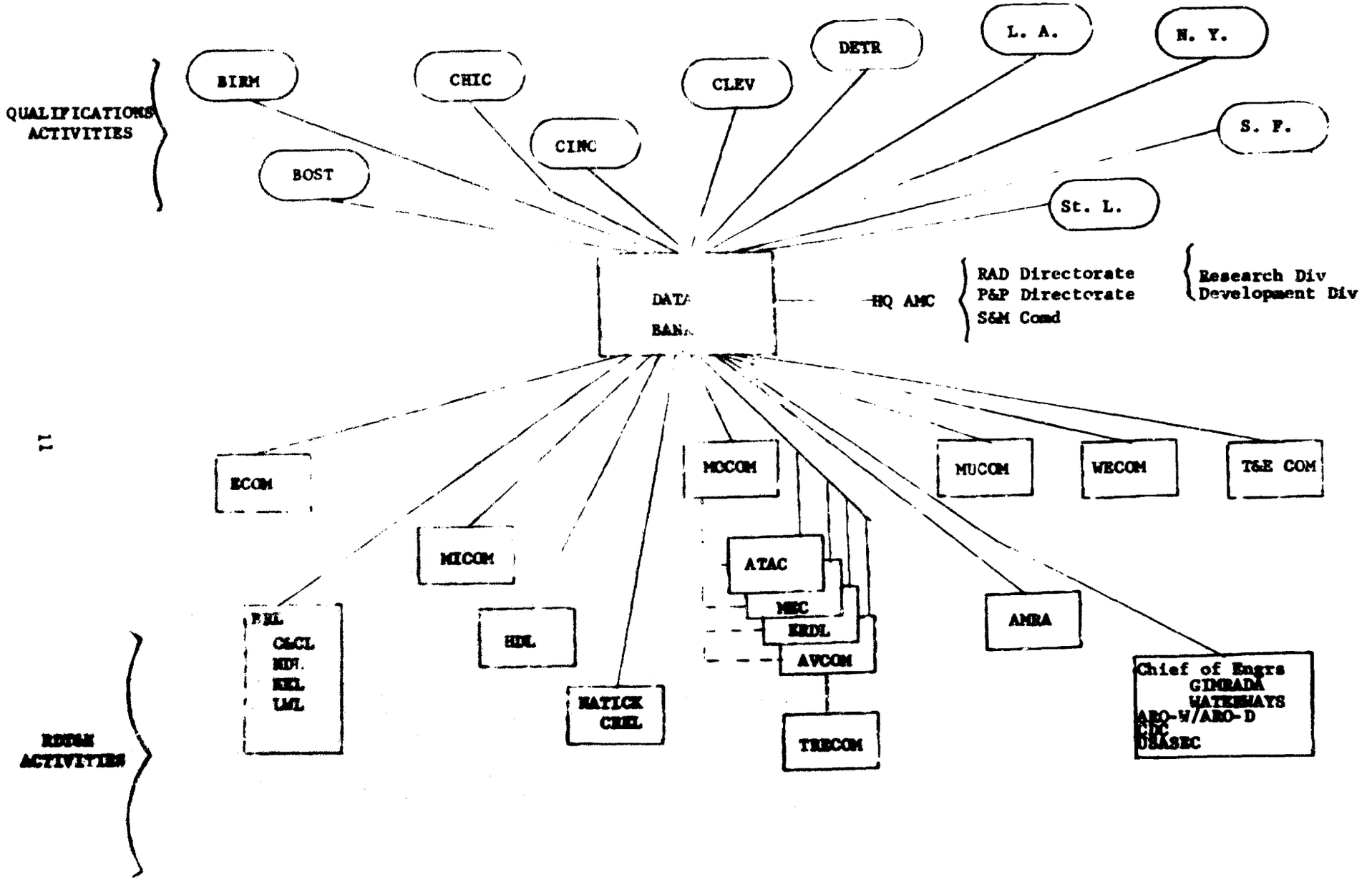

Figure 2

QDRI DATA AND INFORMATION NETWORK (ANTICIPATED) - FY 1967

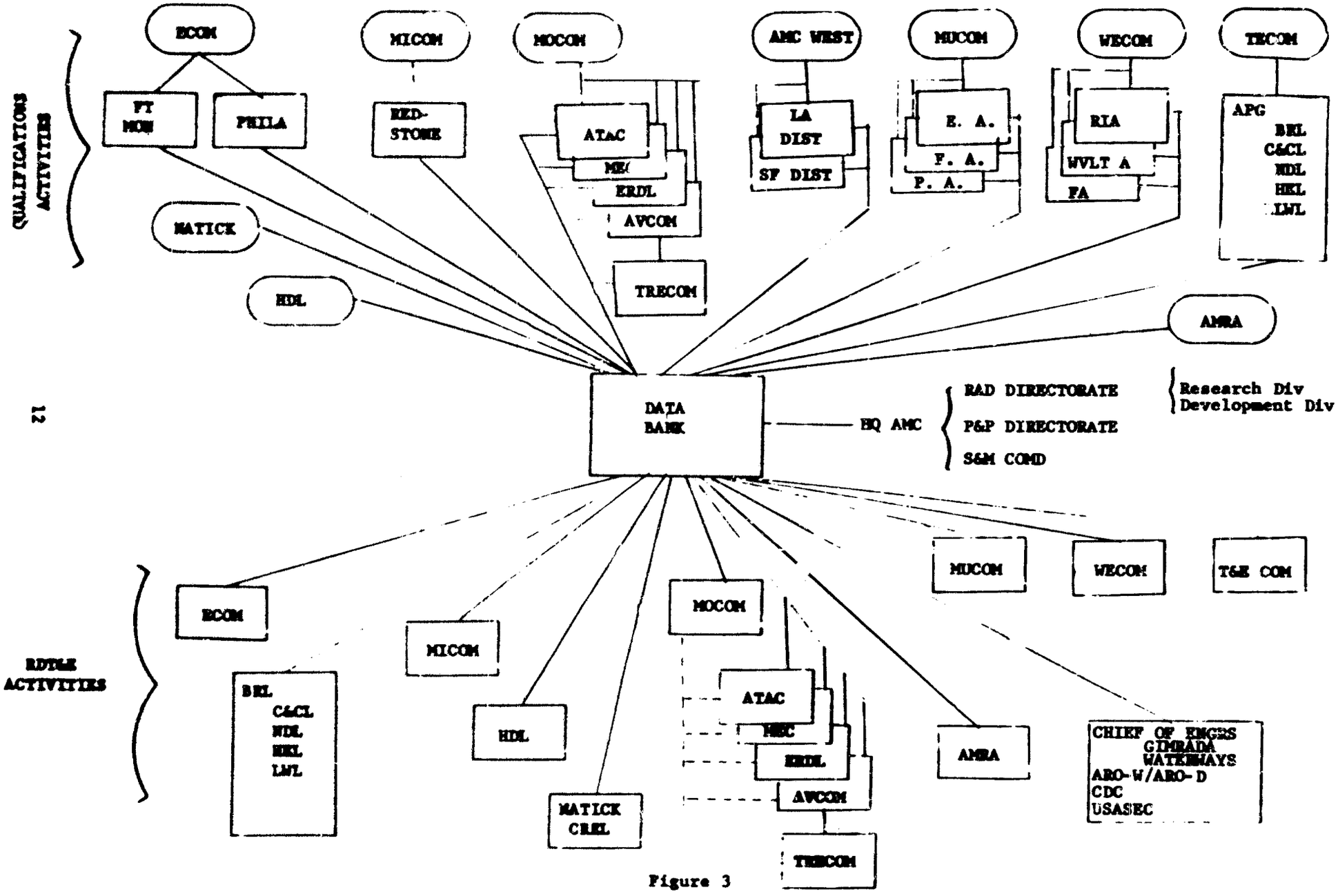

Figure 3

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13. ABSTRACT

This report covers the need for and description of a data bank for the vast amount of information being collected in the QDRI program. An automated data system to acquire, store and process commonly needed information in this program can be put into operation in the very near future.

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14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Information for Industry QDRI Qualitative requirements information Problems for Industry R&D requirements Automated Data Systems Data Bank Automated information network R&D Bidders' List Field of Interest Register						

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